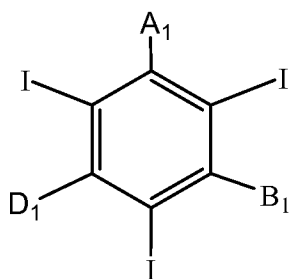


AMENDMENTS TO THE CLAIMS

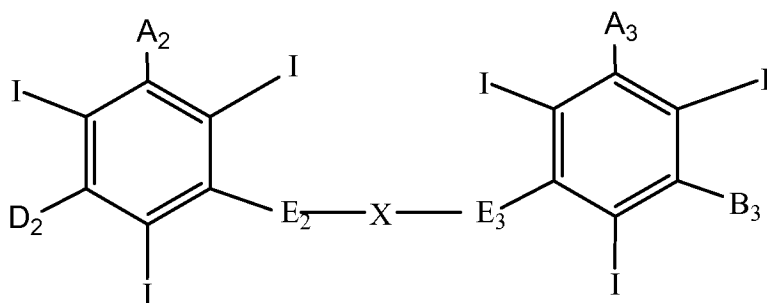
This listing of claims will replace all prior versions, and listings, of claims in the application.

What is claimed is:

1. (Currently Amended) An injectable radiological composition for x-ray visualization during radiological examinations, the composition comprising a pharmaceutically acceptable vehicle and a mixture of at least one monomer and at least one dimer, the monomer corresponding to Formula I and the dimer corresponding to Formula II



Formula (I)



Formula (II)

wherein, with regard to Formula I:

~~A₁[,] and B₁, and D₁ are independently -CON(R₃)R₁; or~~

D₁ is -N(R)C(O)R₂;

~~A₂, A₃, B₃, and D₂ are independently -CON(R)R₄ or -N(R)C(O)R₂ provided, however, at least one of A₂ and A₃ is -CONH₂;~~

~~E₂ and E₃ are independently selected from the group consisting of -CON(R), -N(R)C(O)- and -N(COR₂);~~

each R and R₂ is independently H, or a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, ~~or a member of a (C₃-C₇) cyclic residue, said cyclic residue being optionally interrupted by O, S or NR₄, and/or optionally substituted with one or more hydroxy, alkoxy or~~

~~hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R, the nitrogen atom to which it is bonded and another moiety, that moiety being (i) C(O)R_2 when A_4 , A_2 , A_3 , B_4 , B_3 , D_4 or D_2 is N(R)C(O)R_2 or (ii) R_4 when A_2 , A_3 , B_3 , or D_2 is CON(R)R_4 ;~~

~~each R_1 is independently (i) hydrogen, or (ii) a linear or branched ($\text{C}_1\text{--C}_8$) alkyl residue, optionally substituted with one or more hydroxy, alkoxy, hydroxyalkoxy groups or combinations thereof or by NRC(O)R_4 or C(O)N(R)R_4 , (iii) the residue of a carbohydrate, or (iv) a member of a ($\text{C}_3\text{--C}_7$) cyclic residue, said cyclic residue being optionally interrupted by O , S or NR_4 , and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R_4 , the nitrogen atom to which it is bonded and another moiety, that moiety being (a) R when A_2 , A_3 , B_3 , or D_2 is CON(R)R_4 or (ii) R_3 when A_4 , B_4 , and D_4 is $\text{CON(R}_3\text{)R}_4$;~~

~~each R_2 is independently (i) a linear or branched ($\text{C}_4\text{--C}_8$) alkyl residue, optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups, or combinations thereof or (ii) a member of a ($\text{C}_3\text{--C}_7$) cyclic residue, said cyclic residue being optionally interrupted by O , S or NR_4 and/or optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R_2 , R , the nitrogen atom to which R is bonded and the carbonyl moiety to which R_2 is bonded;~~

~~each R_3 is independently linear or branched ($\text{C}_1\text{--C}_8$) alkyl residue, optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, or taken together with R_4 and the nitrogen atom to which R_3 and R_4 are bonded, form a ($\text{C}_3\text{--C}_7$) cyclic residue, said cyclic residue being optionally interrupted by O , S or NR_4 , and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof;~~

~~each R_4 is independently hydrogen or a linear or branched ($\text{C}_4\text{--C}_8$) alkyl residue, optionally substituted with one or more hydroxy, alkoxy, hydroxyalkoxy groups or combinations thereof; and~~

~~X is a bond or a linear or branched ($\text{C}_4\text{--C}_8$) alkylene chain which is optionally substituted by up to six hydroxy groups, said alkylene chain being optionally interrupted by O , S , NR_4 or N(R)C(O) groups.~~

and wherein with regard to Formula II:

A_2 and A_3 are CONH_2 ;

B_3 and D_2 are CON(R)R_1 ;

E_2 and E_3 are independently selected from the group consisting of CON(R) , N(R)C(O) and $\text{N(COR}_2\text{)}$;

each R is independently H , or a linear or branched ($\text{C}_1\text{--C}_8$) alkyl residue, optionally

substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₁ is independently (i) hydrogen, (ii) a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof, or (iii) the residue of a carbohydrate;

or R and R₁ are each members of a (C₃-C₇) cyclic residue further comprising the nitrogen atom to which each of R and R₁ is bonded, said cyclic residue being optionally interrupted by -O-, -S- or -NR₄-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₂ is independently a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₄ is independently hydrogen or a linear branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;
and

X is a bond or a linear or branched (C₁-C₈) alkylene chain which is optionally substituted by up to six hydroxyl groups, said alkylene chain being optionally interrupted by -O-, -S-, -NR₄- or -N(R)C(O)- groups.

2. (Currently Amended) The composition of claim 1 wherein ~~A₂ and A₃ are independently -C(O)NH₂ with regard to Formula I, R₁ is H or methyl.~~

3. (Original) The composition of claim 1 wherein X is methylene.

4. (Currently Amended) The composition of claim 1 wherein ~~A₄ and B₄ are -C(O)N(R₃)R₄, and each R₃ and R₄ of A₄ and B₄ are as defined in claim 1~~ with regard to Formula I:

A₁ and B₁ are -CON(R₃)R₄;

D₁ is -N(R)C(O)R₂;

each R and R₂ is independently H, methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, 2-methoxyethyl, 1-methoxy-2-hydroxypropyl or dihydroxypropyl;

each R₁ is independently H or methyl;

each R₃ is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl or dihydroxypropyl;

and wherein with regard to Formula II:

A₂ and A₃ are -CONH₂;

B₃ and D₂ are -CON(R)R₁;

E₂ and E₃ are independently selected from the group consisting of -CON(R)-, -N(R)C(O)- and -N(COR₂)-;

each R is independently H, or a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₁ is independently (i) hydrogen, (ii) a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof or by -NRC(O)R₁ or -C(O)N(R)R₁, or (iii) the residue of a carbohydrate;

or R and R₁ are each members of a (C₃-C₇) cyclic residue further comprising the nitrogen atom to which each of R and R₁ is bonded, said cyclic residue being optionally interrupted by -O-, -S- or -NR₄-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₂ is independently a linear or branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R₄ is independently hydrogen or a linear branched (C₁-C₈) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;
and

X is a bond or a linear or branched (C₁-C₈) alkylene chain which is optionally substituted by up to six hydroxyl groups, said alkylene chain being optionally interrupted by -O-, -S-, -NR₄- or -N(R)C(O)- groups.

5. (Cancelled)

6. (Currently Amended) The composition of claim 1 wherein A₁ and B₁ are -CONHR₃ wherein each R₃ of A₁ and B₁ is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.

7. (Cancelled)

8. (Withdrawn – Currently Amended) The composition of claim 1 wherein A₄ and B₄ are -CONR₄R₃ wherein each R₁ and R₃ of A₁ and B₁ is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.

9. (Cancelled)

10. (Currently Amended) The composition of claim 1 wherein ~~D₄ is -N(R)C(O)R₂, and~~ the R and R₂ substituents of D₁ are independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, 1-methoxy-2-hydroxypropyl, or dihydroxypropyl.

11. (Currently Amended) The composition of claim 10 wherein A₁ and B₁ are -CONHR₃ ~~wherein each R₃ of A₁ and B₁ is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.~~

12. (Withdrawn – Currently Amended) The composition of claim 10 wherein ~~A₁ and B₁ are -CONR₄R₃ wherein each R₁ and R₃ of A₁ and B₁ is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.~~

13. (Currently Amended) The composition of claim ~~2~~ 1 wherein ~~at least one of A₁, B₁ and D₄ is -CONR₄R₃ wherein R₁ is hydrogen.~~

14. (Currently Amended) The composition of claim ~~2~~ 1 wherein ~~one of A₁, B₁ and D₄ is -N(R)C(O)R₂ and R and R₂ are as defined in claim 1~~ B₃ and D₂ are -CONHR.

15. (Original) The composition of claim 1 wherein the monomer is selected from the group consisting of iomeprol, iopromide, ioversol, iohexol, iopentol, iopamidol and iobitridol.

16. (Original) The composition of claim 1 wherein the dimer is iosmin.

17. (Original) The composition of claim 1 wherein the monomer is selected from the group consisting of ioversol, iohexol, and iopamidol, and the dimer is iosmin.

18. (Original) The composition of claim 1 wherein the monomer is ioversol and the dimer is iosmin.

19. (Original) The composition of claim 1 wherein the composition further comprises pharmaceutically acceptable radiological vehicles selected from the group consisting of aqueous buffer solutions, sterile water for injection, physiologic saline, balanced ionic solutions, a chelating agent, and other non-radioactive additives comprising excipients and anticlotting

agents.

20. (Original) The composition of claim 19 wherein said aqueous buffer solutions comprise tris(hydroxyethyl)amino methane and salts thereof, phosphate, citrate and bicarbonates; wherein said balanced ionic solutions comprise chlorides and bicarbonates of cations selected from the group consisting of Ca, Na, K, and Mg, and other halides, carbonates, sulphates, phosphates of Na, K, Mg and Ca; wherein said chelating agents consist of H₄EDTA, EDTACaNa₂ and calcium monosodium DTPA-BMEA; wherein said excipient is glycerol, polyethylene glycol or dextran; and wherein said anticlotting agent is heparin or hirudin.

21. (Withdrawn) The composition of claim 1 wherein the composition further comprises a contrast agent other than the monomer and the dimer.

22. (Withdrawn) The composition of claim 21 wherein said other contrast agent is selected from the group consisting of other X-ray contrast agents, magnetic resonance imaging agents, radionuclide imaging agents, ultrasound imaging agents and optical imaging agents.

23. (Withdrawn) A method of diagnostic imaging, the method comprising administering to an individual a composition of claim 1, and carrying out an imaging procedure on such individual.

24. (Withdrawn) The method of claim 23 wherein said composition comprises a monomer selected from the group consisting of ioversol, iohexol and iopamidol, and the dimer is iosimenol.

25. (Withdrawn) The method of claim 23 wherein said composition comprises a mixture of ioversol, and iosimenol.

26. (Withdrawn) A method of diagnostic imaging, the method comprising administering to an individual a composition of claim 22, and carrying out an imaging procedure on such individual.